

**Notice of Allowability**

Application No.

10/814,123

Examiner

Kuo-Liang Peng

Applicant(s)

ZHANG ET AL.

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/12/07 Amendment.
2. ☒ The allowed claim(s) is/are 1-14,37-48 and 54-101.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### DETAILED ACTION

1. Applicants' amendment filed November 12, 2007 is acknowledged. Claims 99-101 are amended. Claims 15-36 and 49-53 are deleted. Now, Claims 1-14, 37-48 and 54-101 are pending.

2. Claim rejection(s) under 35 USC 102 and 103 in the previous Office Action (Paper No. 070707) is/are removed.

### *Allowable Subject Matter*

3. Claims 1-14, 37-48 and 54-101 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The present claims are allowable for at least the following reason(s) over the closest references: Nakanishi688 (US 5 009 688) and Nakanishi875 (US 5 624 875).

Nakanishi688 discloses a method of preparing siliceous materials by hydrolyzing/condensing a silicone alkoxide in the presence of a water-soluble organic polymer such as polyethylene oxide, etc. undergoing phase separation. (col. 2, lines 7-43 and Examples) Nakanishi688 is silent on the use of polyol silane precursor. Applicants provide a declaration under 37 CFR 1.132 filed on November 12, 2007 to clarify the confusing results demonstrated Figure 5 and Table 1 in Exhibit D as indicated in paragraph 10 of the previous Office action (Paper No. 070707) and the Figure 5 and Table 1 is **updated** in Exhibit A of the current declaration. Notably, Applicants confirm that the small amount of the macropores in Sample 2

(comparative) is “a consequence of **cracking** during drying, rather than the presence of real macropores”. See paragraph 7 of the current declaration. Since Applicants show the unexpected advantages of utilizing an organic polyol silane precursor for making **bimodal meso/macroporous** siliceous materials, Nakanishi688 does not teach or fairly suggest the claimed method set forth in Claims 1, 41 and 54 and the claimed chromatographic column set forth in Claim 56; where an **organic polyol silane precursor** is hydrolyzed/condensed in the presence of a **water-soluble polymer**. Furthermore, Nakanishi688 does not teach or fairly suggest the claimed method set forth in Claims 39, 41, 54 and 57, and the claimed chromatographic column set forth in Claim 56; where an **organic polyol silane precursor** is hydrolyzed/condensed in the presence of an alkyltrialkoxysilane represented by **Formula I**.

Nakanishi875 discloses a method for producing chromatography column, (bio)sensor, (bio)reactor by hydrolyse/condense a silicone alkoxide such as tetramethoxysilane in the presence of a water soluble polymer such as poly(ethylene oxide), etc. undergoing phase separation. (col. 3, lines 12-45, col. 4, lines 3-47, col. 5, lines 42-63, col. 6, lines 22-36 and Examples) Nakanishi875 is silent on the use of polyol silane precursor. For the similar reason, *supra*, Nakanishi875 does not teach or fairly suggest the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck, can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

klp  
January 14, 2008

  
Kuo-Liang Peng  
Primary Examiner  
Art Unit 1796